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REMARKS

Reconsideration of the application is requested.

Claims 1-21 remain in the application. Claims 1-21 are subject to examination. Claims 1 and 18-21 have been amended.

Under the heading "Claim Rejections - 35 USC § 102" on pages 2-3 of the above-identified Office Action, claims 1, 2, 12 and 16 have been rejected as being fully anticipated by International Patent Disclosure WO 97/30497 to Scobey et al. (hereinafter Scobey) under 35 U.S.C. § 102.

The rejection has been noted and claims 1 and 21 have been amended in an effort to even more clearly define the invention of the instant application. Amended claims 1 and 21 contain the additional feature that a respective separate active zone appears at a sufficiently small solid angle from an opposite, further respective separate active zone ..... Support for the changes is found on page 3, lines 8-20 of the specification of the instant application.

It is an object of the invention of the instant application to provide a device for the emission of laser radiation of high power with a good beam quality. This can be achieved for example by suppressing transversal modes of a higher order, which is realized according to the invention of the instant

application by subdividing the active zone in such a way that higher modes of the resonator experience a smaller amplification per resonator circulation than the fundamental mode of the resonator.

Scobey discloses in connection with Fig. 7 an optical device which contains a first 58 and a second 68 diode laser, wherein the first diode laser 58 carries a high reflector end mirror 60 at a first emitter facet 62, and the second diode laser 68 carries an optical coupling coating 70 at emitter facet 72, such that a resonant cavity is established between the coating 70 and the coating 60. Positioned between the first and the second diode laser 58, 68 is a monolithic prism assembly 79 carrying a thin film Fabry-Perot narrowband filter 80. It is described on page 15, lines 16-19 that a spectral mode is transmitted, whereas other modes are rejected by the Fabry-Perot interference filter. Thus, it is the Fabry-Perot filter 80 that causes mode selection. However, according to the invention of the instant application, it is the spatial configuration of the active zones, namely that a respective first active zone appears at a sufficiently small solid angle from the opposite second active zone (pump zone) which causes mode selection. Such a technical solution is not disclosed by Scobey in which the higher modes of the resonator experience a smaller amplification per resonator circulation than the fundamental mode of the resonator due to the active zones.

Therefore, the subject matter of amended claim 1 is believed to be novel with respect to Scobey.

It is further noted that page 22, lines 20-21 of Scobey states "various components of Fig. 7 shown spaced apart can advantageously be butt coupled to reduce the overall size of the device and its optical length". Therefore a major focus of Scobey is on reducing the overall size when changing the spacing. But there is no hint that changing the spacing could result in higher modes experiencing a smaller amplification per resonator circulation than the fundamental mode. On the contrary, reducing the overall size would rather result in the effect that higher modes would be amplified in the same way as the fundamental mode.

In item 4 on pages 3-6 of the above-identified Office Action, claims 1, 2, 9-11, 14 and 21 have been rejected as being obvious over U.S. patent No. 5,220,572 to Kawaguchi (hereinafter Kawaguchi) in view of U.S. patent No. 4,805,185 to Smith (hereinafter Smith).

In connection with Fig. 3, Kawaguchi discloses a light pulse generator formed of a first semiconductor laser diode 11 having at one end a highly reflective surface and a second semiconductor laser diode 12 having at one end a highly

reflective surface. An optical resonator is composed of the two highly reflective surfaces and two lenses. In contrast to the invention of the instant application, Kawaguchi does not discuss different resonator modes and related amplification matters.

Smith discloses a semiconductor laser 10 having an attached etalon 18. The etalon 18 has a partially reflective front surface 26 and an inner surface 24 that acts in conjunction with the internal cavity of the laser diode 12 to reduce side mode emission from the laser. This results in laser emission of a single dominant mode.

There is no motivation for a person of average skill in the art to use the etalon disclosed by Smith within the light pulse generator disclosed by Kawaguchi, as it cannot be known from Smith that the generation of unwanted sub pulses, as intended by Kawaguchi, could be minimized by using the etalon.

But even if a person of average skill in the art had the idea to use the etalon disclosed by Smith within the light pulse generator disclosed by Kawaguchi, he would not come to the invention of the instant application. As described in column 3, lines 60-68, by using the etalon:

"the lasing threshold of the dominant mode is lowered as

a result of its higher reflectivity which promotes increased stimulated emissions in phase with the dominant mode. In contrast, the lasing thresholds of the side modes are raised since they are reflected with less efficiency and thus their poorer reflections do not stimulate in phase photon emission nearly as well as the dominant mode."

However, according to the invention it is not etalon reflections but a sufficiently small solid angle at which the respective active zone appears from the opposite active (pump) zone, so that higher modes experience a smaller amplification per resonator circulation than the fundamental mode of the resonator.

For these reasons, the subject matter of amended claim 1 is not believed to be obvious in view of the combination of Kawaguchi and Smith.

In item 5 on page 6 of the above-identified Office Action, claims 3 and 4 have been rejected as being obvious over Kawaguchi in view of Smith and in further view of U.S. patent No. 6,263,002 to Hsu et al. (hereinafter Hsu) under 35 U.S.C. § 103.

Amended claim 1 is believed to be allowable. As claims 3 and 4 ultimately depend on amended claim 1, they are also believed to be allowable.

In item 6 on pages 6-7 of the above-identified Office Action, claims 5 and 6 have been rejected as being obvious over Kawaguchi in view of Smith and in further view of U.S. patent No. 5,136,598 to Weller et al. (hereinafter Weller) under 35 U.S.C. § 103.

Amended claim 1 is believed to be allowable. As claims 5 and 6 ultimately depend on amended claim 1, they are also believed to be allowable.

In item 7 on page 7 of the above-identified Office Action, claim 15 has been rejected as being obvious over Kawaguchi in view of Smith and Weller and further in view of U.S. patent No. 6,580,850 to Kasarinov et al. (hereinafter Kasarinov) under 35 U.S.C. § 103.

Amended claim 1 is believed to be allowable. As claim 15 ultimately depends on amended claim 1, claim 15 is also believed to be allowable.

In item 8 on pages 8 and 9 of the above-identified Office Action, claims 5, 6, 18 and 19 have been rejected as being obvious over Scobey in view of Weller under 35 U.S.C. § 103.

Amended claim 1 is believed to be allowable. As claims 5, 6, 18 and 19 ultimately depend on amended claim 1, they are also believed to be allowable.

In items 9-12 on pages 9-11 of the above-identified Office Action, claims 7, 8, 13, 17 and 20 have been rejected as being obvious over various combinations of Scobey, Weller, and U.S. patent No. 6,263,140 to Stegmuller (hereinafter Stegmuller) under 35 U.S.C. § 103.

Amended claim 1 is believed to be allowable. As claims 7, 8, 13, 17 and 20 ultimately depend on amended claim 1, they are also believed to be allowable.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 21. Claims 1 and 21 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 1.

In view of the foregoing, reconsideration and allowance of claims 1-21 are solicited.

If an extension of time is required, petition for extension is herewith made. Any extension fee associated therewith should be charged to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

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